

## A New Species of *Thottea* Rottb. (Aristolochiaceae) from Kerala, South India

**E.S. Santhosh Kumar, A.E. Shanavas Khan and S. Binu**

Tropical Botanic Garden and Research Institute, Palode  
Thiruvananthapuram - 695 562, Kerala, India

---

### Abstract

A new species of *Thottea* Rottb. viz., *T. sivarajanii*, is described and illustrated.

### INTRODUCTION

The genus *Thottea* has 25 species distributed mainly in SE Asian countries particularly Malesia. The genus is represented by eight species in India viz., *T. abrahamii* M. Dan *et al.*, *T. barberi* (Gamble) Ding Hou, *T. dinghoui* Swarupan., *T. duchartrei* Sivar., A. Babu & Balach., *T. idukkiana* Panduran. & Nair, *T. ponmudiana* Sivar., *T. silliquosa* (Lamk.) Ding Hou and *T. tomentosa* (Engl.) Ding Hou. All except *T. silliquosa* and *T. tomentosa* are endemic to the southern Western Ghats.

The authors while undertaking systematic studies on the genus *Thottea* of South India, came across an interesting species, which is quite distinct from all the known species of the genus and is described here as new.

***Thottea sivarajanii* Santhosh, Shanavas *et* Binu, *sp. nov.* (Fig.1).**

*Thotteae ponmudianae* Sivar. affinis, sed foliis chartaceis, basi nervis manifeste elevatis pagina supra, secundarius nervis arte reticulatis; gemmasibus extus strigosus pilosis, apice acumatis vel rostratis, floribus atro-purpureis cum periantho lobato acumatis; seminis irregularis et transversalis corrugatis differt.

*Types:* India, Kerala, Wayanad District, Periya,  $\pm$  500 m, 6 Dec. 1994, *Santhosh Kumar 23218* (*Holo* - TBGT; *Iso* - K, CAL).

Shrubs, 1-2 m tall, with swollen nodes, nodes 20-30 or more per shoot, internodes 2-5 cm long. Leaves alternate, bifarious; petiole 3-5 mm long, pubescent, deeply channeled; lamina 13-22 x 2.5-6 cm, narrowly elliptic-lanceolate, acuminate at apex, entire, chartaceous, glabrous above, pubescent underneath; hairs multicellular, geniculate or not, stalk uniseriate, 2-3-celled, apical cell long or short, straight or hooked, base obtuse, rounded or acute; veins

E.S. Santhosh Kumar *et al.*

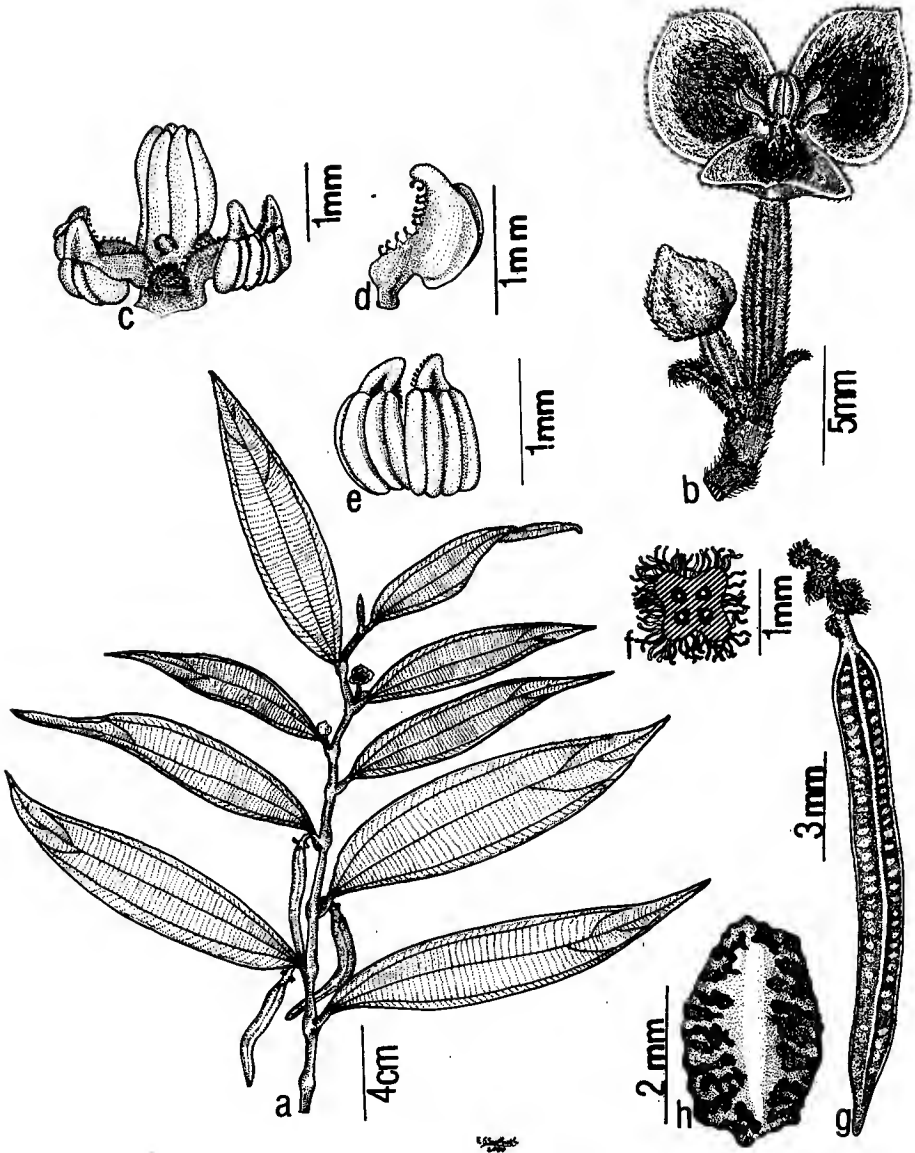


Fig. 1. *Thottea sivarajanii* Santhosh, Shanavas *et* Binu.: a. Habit; b. A flower and a flower bud; c. Gynostemium; d. Stamen side view; e. Stamens front view; f. C.S. of ovary; g. Fruit; h. Seed.

### A new species of *Thottea* from South India

prominent, strongly 3-nerved from the base, prominently raised in the upper surface, slightly curved towards the apex, lateral nerves 2-3, tertiary nerves closely reticulate. Flowers in axillary, sessile bracteate peduncled cyme; peduncle 1.5-2 cm long; bracts 6 mm long, densely hairy, ovate-oblong, acute - obtuse at apex, the upper smaller. Flowers regular, 10 mm diam., deep purple, darker at the centre; perianth lobed to the base; the lobes 3 (very rarely 4), broadly ovate or sub-orbicular, acuminate or apiculate at apex, 6-8 x 5-6 mm, strigosely hairy without and multicellular cylindrical hairs within; margins strongly reflexed; flower bud trigonous with the reflexed margins of perianth lobes projecting or even obsolete at the angles, apiculate or beaked, strigosely hairy without. Gynostemium pubescent with uncinat multicellular hairs. Stamens 6-8 in 3 groups of 2+2+2, 2+2+3 or 2+3+3, alternating with solitary staminoides between the group, 2-4 staminoides often found beneath the stigmatic lobes opposite or alternate with the stamen groups; filaments covered with small uncinat hairs; anthers linear, extrorse, dehiscing longitudinally. Ovary inferior, 1-1.2 cm long, linear, 4-5-angled, pubescent; stigmatic lobes 4-6, simple or rarely bifurcated, cylindric, crowned by uncinat hairs at apex. Capsule 5-7 cm long, green, glabrescent, sharply 4-angled. Seeds many, trigonous, irregularly and transversely corrugated.

*Flowering and fruiting* : Round the year.

*Distribution*: Endemic to southern Western Ghats.

*Habitat*: Like other species of the genus, it is also found in shady habitats in semievergreen and evergreen forests upto 1000 m.

*Etymology*: The specific epithet is in honour of late Dr. V.V. Sivarajan for his contributions in the field of angiosperm taxonomy.

*Relationship*: Allied to *Thottea ponmudiana* Sivar., but differs mainly by the chartaceous leaves with prominently raised nerves in the upper surface, secondary nerves closely reticulated; flower bud apiculate or beaked and are strigosely hairy without, flowers are deep purple and that of perianth lobes apiculate and are strigosely hairy and the seeds are irregularly and transversely corrugated.

The new species also resembles *T. corymbosa* (Griff.) Ding Hou, native of Sumatra and Malay Peninsula in having leaves with acrodromous venation *ie.* three prominent nerves starting from base and reaching often to the apex which are all joined by almost parallel and transverse veins. However, *T. sivarajanii* can be distinguished by the perianth deeply lobed to the base with strongly reflexed margins and 4-angled fruits.

*Notes*: The pattern of leaf venation, position of inflorescence, shape of bracts, shape and size of perianth, arrangements of stamens, shape of seeds and surface features of testa are helpful diagnostic characters for species delimitation in *Thottea*. But number of stamens and style lobes are not constant in a species or even in one specimen.

**E.S. Santhosh Kumar *et al.***

Renuka and Swarupanandan (1986) first reported the presence of staminodes in *Thottea*. Pandurangan and Nair (1993) also recorded the occurrence of these staminodial organs in *T. idukkiana*. Our present studies concluded that the presence of staminodes between the stamen-groups or below the stigmatic lobes is a common character to all known Indian species of the genus having bundled stamens.

**Acknowledgements**

The authors are thankful to Dr. K. Swarupanandan, Kerala Forest Research Institute, Peechi, Trichur, Kerala for confirming the novelty of the taxon. We are also grateful to Dr. G. Sreekandan Nair, Director, Tropical Botanic Garden and Research Institute (TBGRI), Trivandrum for the facilities and encouragement, and to Dr. M.P. Nayar, Emeritus Scientist, TBGRI for the Latin diagnosis and critical comments.

**Literature cited**

- Pandurangan, A.G. & V.J. Nair. 1993. *Thottea idukkiana* - A new species of Aristolochiaceae from Kerala, India. *J. Econ. Tax. Bot.* 17(2): 465-467.
- Renuka, C. & K. Swarupanandan. 1986. Morphology of the flower in *Thottea siliquosa* and the existence of staminodes in Aristolochiaceae. *Blumea* 31: 313-318.